



Whole New IT Needed

Hood Predicts a Medicine Based on Preserving Wellness

By Rich McManus

When Dr. Leroy "Lee" Hood says that the future of medicine will be characterized by four P's (predictive, preventive, personalized and participatory—and yes, former NIH director Dr. Elias Zerhouni seems to have coined the expression around



man Genome Project possible, a feat he predicted, among other places, at a talk at NIH in 1990.

On the basis of his track record alone, it's

May 2006, substituting "pre-emptive" for preventive), it's best to give him the benefit

of the doubt. After all, he and colleagues

invented the technology that made the Hu-

on the basis of his track record alone, it is safe to spot Hood the fifth P—prophetic.

Leader for the past decade of the Institute for Systems Biology in Seattle, Hood addressed an NCI seminar at Natcher Bldg.'s Kirschstein Auditorium on Oct. 2. If there is

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features

Father of Systems Biology Forecasts Medicine's Future

ABOVE • U2 guitarist Edge recently paid a

call on NIH. See story on p. 3.

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Speakers Urge Renewed Commitment to Diversity

Dr. Leroy Hood

By Valerie Lambros

Workplaces, especially federal ones, strive for diversity but can often fall short. This is true at NIH, but the agency isn't alone. Members of the NIH



Bismarck Myrick

leadership and guests from other parts of the government shared their insights recently at the annual "A Time for Diversity" event at the Natcher Bldg.

Dr. Lawrence Tabak, NIH principal deputy director, opened the event by reminding attendees why it is so critical to keep diversity top-of-mind in carrying out the NIH mission.

"Diversity is vital in labs, offices and hospital rooms, but also in the way we communicate our

ORWH Celebrates Two Decades of Women's Health Research

The theme, "much to celebrate, much more to do," aptly described the Office of Research on Women's Health's 20th anniversary celebration held recently. The daylong scientific symposium and poster session included a tribute to Dr. Ruth Kirschstein, the first acting associate director of ORWH, and a talk by awardwinning actress Cicely Tyson.

ORWH director Dr. Vivian Pinn welcomed the more than 400 attendees to Kirschstein Auditorium in Bldg. 45. Former U.S. Rep. Connie Morella (R-MD) and U.S. Sen. Barbara Mikulski (D-MD) recalled that ORWH was established after women had been excluded from many NIH-funded studies.

Dr. Bernadine Healy, who became the first woman director of NIH in 1991, said in her keynote address that the "third suffrage movement" sought the right to equal representation in health care. U.S. Sen. Olympia Snowe (R-ME) provided videotaped remarks.



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Author Sinek To Present at DDM Seminar

The Deputy Director for Management (DDM) announces the first DDM seminar of the 2010-2011 series "Management and Science: Partnering for Excellence." The event on Thursday, Dec. 16 from 11 a.m. to 12:30 p.m. in Masur Auditorium, Bldg. 10, will feature Simon Sinek, author of Start With Why: How Great Leaders Inspire Everyone to Take Action. Sinek created the "Golden Circle" model that codifies what makes the most inspiring people and organizations so successful.

Videocasting and sign language will be provided. Individuals who need reasonable accommodation to attend should call (301) 496-6211 or the Federal Relay Service at 1-800-877-8339. For more information about the DDM Seminar Series, visit www.ddmseries.od.nih.gov or call (301) 496-3271.

STEP Forum on Workplace Stress, Time Management

The staff training in extramural programs (STEP) committee will present a Workplace Strategies forum on the topic "Got Stress? Manage Your Energy, Prioritize Your Time," on Tuesday, Dec. 14, from 9 a.m. to noon in Lister Hill Auditorium, Bldg. 38A.

We all know people in our office who seem unflappable, get all their work done and don't work overtime. Then there are the rest of us who come in early and stay late, but we're still not caught up. How can we learn to manage our energy, prioritize our activities and reduce the stress of modern life? Are there ways to change the organizational culture to reduce workplace stress? Take a break from the end-of-the-year frenzy and join us as we explore the science of stress and strategies for staying cool under pressure.

Training for Supervisors in Spotlight

Supervisory development is under the spotlight as the Office of Personnel Management recently amended its training and development regulations. HHS will soon be coming out with guidance further defining supervisory training. NIH plans to interpret and clarify these regulations by developing an NIH-specific policy that incorporates various IC voices. A cross-IC supervisory training committee has formed. The committee will be formalizing the policy and reaching out to the NIH community. To stay updated on pending guidance and committee

activities, visit http://trainingcenter-test.od.nih. gov/mandatory_supervisory_training.html.

The NIH Training Center already offers a course that meets the supervisory requirements: NIH-Supervisory Skills Training. In addition, individual ICs may offer courses and/or programs that benefit supervisors.

Baked Goods To Remain Available

Every Tuesday, the Upper Crust Bakery will be at Bldg. 31 to sell its goods from 10:30 a.m. to 1:30 p.m. Depending on the weather, look for the Upper Crust Bakery either on the Bldg. 31A patio or in front of the Bldg. 31 R&W Store (B1 level). The bakery makes fresh bread daily, with no preservatives or additives. Available for sale will be a variety of breads and preserves, all of which make fine holiday gifts or complement your holiday meal.

CC Offers Mammograms to NIH Community

NIH staff and contractors will be offered screening mammograms, at no charge, if they are eligible for a standard-of-care protocol from Clinical Center Radiology and Imaging Sciences.

Screening mammograms will be offered on Tuesdays throughout the year to women due for their annual test. Radiology and Imaging Sciences is on the first floor of the Clinical Center.

Women age 40 years or older are eligible for the screening mammograms. Also eligible are women younger than 40 but with more than a 20 percent lifetime risk of developing breast cancer. Increased risk can result from prior thoracic radiation therapy, family history or genetic predisposition, for example. Pregnant and lactating women are not eligible.

All women interested in having a mammogram at the CC must bring their prior mammograms, if available, for comparison.

To take part in the mammography program, contact the CC Office of Communications, Patient Recruitment and Public Liaison at 1-800-411-1222 or 1-866-411-1010 (TTY).

Staff can visit http://intranet.cc.nih.gov/radiology/mammography_screening.html for more information or contact the mammography team at (301) 402-9800.



Nobel Laureate Greider Gives Aging Lecture, Dec. 1

According to Dr. Carol Greider, her early school years were tough—dyslexia created a variety of education challenges. Then, in fifth grade, her family moved abroad, to Heidelberg, Germany, where she was confronted with the difficulty of learning another language. But speaking German turned out to be easier than managing the demands of the written word. Because of these obstacles, she learned to focus on the task at hand at a young age.

This tenacity has served her well as a research scientist. Greider went on to discover how chromosomes are protected by telomeres and the enzyme telomerase, and at age 48, she was awarded a share of the 2009 Nobel Prize in physiology or medicine for that research. Now the Daniel Nathans professor and director of the department of molecular biology and genetics at Johns Hopkins School of Medicine, she will present "Telomeres and Telomerase in Cancer and Age-Related Disease" at the Florence Mahoney Lecture on Aging, Wednesday, Dec. 1 at 3 p.m. in Masur Auditorium, Bldg. 10. The lecture is part of the NIH Director's Wednesday Afternoon Lecture Series.

"Dr. Greider's work is an example of how scientific curiosity, together with an astute and creative intellect, can take a researcher from one level of discovery to another," said NIA director Dr. Richard Hodes. "The study of aging at the cellular level opens many avenues for investigators."

Greider was brought up in an academic setting. Her parents were scientists with doctorates from the University of California, Berkeley—her father's field was physics and her mother's botany—but she did not grow up thinking she would follow in their footsteps. Then a biology course in her senior year in high school changed her mind. In 1983, she received a B.A. in biology from the University of California, Santa Barbara, and, in 1987, she was awarded a Ph.D. in molecular biology from the University of California, Berkeley.

As a young graduate student working in Dr. Elizabeth Blackburn's lab at Berkeley, Greider discovered telomerase, an enzyme that maintains telomeres, or chromosome ends. Greider first isolated and characterized telomerase from the ciliate *Tetrahymena*, a single celled, pond-dwelling organism.

In 1988, Greider moved to Cold Spring Harbor Laboratory, where as an independent fellow, she cloned and characterized the RNA component of telomerase. Further, she expanded the focus of her telomere research to include the role of telomere length in cell senescence, cell death and cancer. Together with Dr. Calvin Harley of McMaster University, she showed that human telomeres shorten progressively in primary human cells. This work, along with work of other researchers, led to the idea that telomere maintenance and telomerase may play important roles in cellular senescence and apoptosis.

In 1997, Greider moved to Johns Hopkins. Her group continued to study the biochemistry of telomerase and determined the secondary structure of the human telomerase RNA. She also developed a mouse model for dyskeratosis congenita, a rare, inherited disorder related to stem cell failure in response to shortened telomeres. She currently directs a group of 10 scientists studying both the biochemistry of telomeres and telomerase as well as the cellular consequences of short telomeres on organisms.

Greider has published numerous journal articles and book chapters on telomeres and telomerase and is the recipient of many awards. In addition to the Nobel Prize, she was awarded the Pearl Meister Greengard Prize, the Paul Ehrlich and Ludwig Darmstaedter Prize and the Albert Lasker Basic Medical Research Award. In addition, she is a fellow of the American Academy of Microbiology, the American Association for the Advancement of Science and the American Academy of Arts and Sciences, and a member of the National Academy of Sciences.

A reception will be held in the NIH Library following the lecture. •

U2 Guitarist Visits NIH

NIH director Dr. Francis Collins hosted Dr. William Li (not shown). head of the Angiogenesis Foundation, and special guest and AF board member David Howell Evans (best known as rock band U2 lead guitarist Edge, in photos at right), to discuss angiogenesis research on Oct. 25. The foundation is a non-profit organization that is re-conceptualizing the fight against global disease through angiogenesis research. After their discussion, Collins and Edge had an acoustic jam session much to the delight of everyone in the room.

PHOTOS: ERNIE BRANSON









DIVERSITY

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Top, 1:

At "The Face of Diversity," an assembly of information booths by several employee and affinity groups showing how diversity at NIH is practiced, are BIG members Laurrita Spriggs (r) of NIAMS, Samuel McFadden (second from r) of NIA and Chris Jones (c) of OD at the BIG booth.

Top, r:

Dr. Belinda Seto, deputy director of NIBIB, addresses the diversity assembly.

Below:

CIT Deputy Director Al Whitley (I) and NICHD Deputy Executive Officer Dexter Collins, who chairs the NIH Diversity Council, take a stroll through an "Art of Diversity" display.

PHOTOS: MICHAEL SPENCER, SYLVESTER IACKSON

science to others," he said. "We could easily take it for granted if we did not stop to recognize its value. Through commitment and consistency to diversity we can accomplish anything. We must acknowledge and embrace our differences, as natural as these differences are, and incorporate different perspectives into our work."

Guest speaker Bismarck Myrick, director of the EEO function at the U.S. Patent and Trademark Office, urged people to rethink what it means to be diverse and to approach the concept with openness instead of trepidation.

"Diversity for most people is punitive in the workplace," he said. "People will say they have diversity 'issues.' It's never 'diversity' with a smile."

He recounted the time he boarded an elevator at work that contained several high-level administrators. Since Myrick is known as the equal opportunity and diversity specialist in his organization, one administrator quipped, "What did I do?"

"I think a lot of people are on guard about

the issue, but that feeling becomes a barrier to the message," he said.

Those barriers can be dangerous, Myrick added. The Patent and Trademark Office employs many people with science and engineering degrees because they have the skill and knowledge needed to analyze the thousands of patent appli-

cations the agency receives every year. However, Myrick worries that the diversity of the workforce may suffer if certain education statistics continue in the direction they're headed.

An admitted fan of stats, he noted that while African Americans are 23 percent of the U.S. population in the 18 to 24 age group, they account for only 16 percent of students either

holding or pursuing science and engineering degrees.

"We've dropped to fifth in the world in the area of innovation," he said. "I'm very concerned about the numbers we are seeing and the lagging interest in STEM [science, technology, engineering and mathematics] education. We need people with the expertise and the technical competence. We can't afford to have arbitrary barriers to diversity at our agencies."

One way to combat these trends is through leadership, offered speaker Terry Dickerson, civil rights director for the U.S. Coast Guard.

"Leaders show their priorities by how they spend their time," she said.

She's seen that sort of leadership first-hand. She used to work for Adm. Thad Allen, who managed the government's response to the oil spill in the Gulf of Mexico. Within the first days of the spill, Dickerson came across a situation that she wanted to address through a message to the whole Coast Guard, but needed Allen's approval. She emailed him about the matter, expecting it would be days before she'd hear back. Instead, she got a reply right away, urging her to move forward.

"That said a lot, that he wanted to enable me to act on this," she said. "That brand of leadership is what's needed if you're going to be proactive."

Dickerson said that same sense of empowerment is encouraged throughout her agency via senior-to-junior mentoring relationships.

The concept of mentoring is a big one for NIGMS director Dr. Jeremy Berg, particularly in his position as an institute leader, but also as chair of NIH's diversity task force.

Berg knows that increasing the level of diversity in NIH's labs and offices starts with students and whether or not they choose to work in the sciences. He pores over studies about why some students who say they are interested in science





Guest speaker Terry Dickerson, civil rights director for the U.S. Coast Guard

and technology end up going into those careers and why some change their minds.

"We find that those students with research experience in their academic careers tend to maintain their interest, while in those students with an absence of research experience, their interest in science declines," he told the audience.

These findings tell Berg that more student opportunities, particularly for youngsters in danger of losing interest in the field—many of whom are minorities—are critical.

"We seek racial and ethnic but also gender diversity here at NIH," Berg said. "We must work to increase the number of under-represented minorities in the scientific workforce."

Throughout the day, many other prominent NIH'ers stepped forward to offer remarks about why diversity is important at NIH. Dr. Michael Gottesman, NIH deputy director for intramural research, and Dr. John Ruffin, director of the newly minted National Institute on Minority Health and Health Disparities, discussed NIH's efforts to address and improve the low percentages of minorities at NIH facilities and what bringing those figures up to par could mean for the breadth of biomedical science. A leadership panel composed of NIH executives talked about what works in their ICs and how lessons learned in one place might easily apply to another office or operating division.

But speakers weren't the only ones sharing their impressions of diversity in the workplace. As if making visual statements on the topic, a pair of demonstrations by members of the Aikido Club and students from the NIH Taekwondo School, as well as a flowing and intricate Indian dance by Pallavi Das, showcased the value of what other cultures and ethnicities can offer. A physical assault can be thwarted by a shift in position and a well-timed flick of the wrist. A dozen emotions can be communicated by a head movement and a stomp of the foot. It is these nuances in motion and thinking that add to the richness of life and, NIH officials believe, to the richness of research.



USAID administrator Dr. Rajiv Shah, pictured here in Haiti, will deliver the 2010 Barmes lecture on Dec. 14. PHOTO: SGT. DENNIS J. HENRY JR./U.S. AIR FORCE

USAID Administrator Shah To Give 2010 Barmes Lecture

United States Agency for International Development administrator Dr. Rajiv Shah will present the 2010 David E. Barmes Global Health Lecture on Tuesday, Dec. 14 at 11 a.m. in Masur Auditorium, Bldg. 10.

The lecture, titled "Addressing Grand Challenges: The Role of Science in Global Health Development," will include details of USAID's new approach, tailored to support President Obama's vision for high-impact global development, announced by the White House in September.

Prior to being appointed USAID administrator, Shah served as under secretary for research, education and economics and chief scientist at the Department of Agriculture, where he was responsible for the U.S. food and fiber system. Previously, he served as director of agricultural development at the Bill and Melinda Gates Foundation.

In his 7 years with the Gates Foundation, he served as its director of strategic opportunities and as deputy director of policy and finance for the global health program. In these roles, he helped develop and launch the foundation's global development program and helped create both the Alliance for a Green Revolution in Africa and the International Finance Facility for Immunization—an effort that raised more than \$5 billion for child immunization.

Shah also is co-founder of Health Systems Analytics and Project IMPACT for South Asian Americans. In addition, he has served as a policy aide in the British Parliament and worked at the World Health Organization.

Originally from Detroit, Shah earned his M.D. from the University of Pennsylvania Medical School and his master's in health economics at the Wharton School of Business. He has attended the London School of Economics, is a graduate of the University of Michigan and has published articles on health policy and global development.

The lecture honors the late David Edward Barmes, special expert for international health at NIDCR. The lecture series was established by NIDCR and Fogarty in 2001 to honor his lifelong dedication to research aimed at improving health for those in low-income countries.

ORWH ANNIVERSARY

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The office unveiled its strategic plan—Moving Into the Future With New Dimensions and Strategies: A Vision For 2020 For Women's Health Research—which sets the agenda for the next 10 years. The office published the

3-volume plan after hearing from advocates, scientists, policymakers, educators and health care providers at scientific meetings in St. Louis, San Francisco, Providence, Chicago and Atlanta. The meetings included a total of 37 scientific and career-development working groups and incorporated testimony from 141 organizations and individuals.

Among the areas that will be key to future women's health research

are: longitudinal studies across the lifespan; genomics and stem cell studies; sex differences in the brain; and sex differences in interdisciplinary research.

Dr. Linda Griffith of the Massachusetts Institute of Technology delivered the first Ruth L. Kirschstein Distinguished Lectureship, "The Integration of Systems Biology and Tissue Engineering for Research on Women's Health." Griffith, who is an engineer, provided an example of what interdisciplinary work can accomplish, describing her laboratory's liver tissue engineering project. She related the work to women's health research and also described the MIT Center for Gynepathology, which is studying endometriosis with an eye to developing new research tools that can be applied to other research projects.

NIH director Dr. Francis Collins expanded on some of Griffith's themes as he described the next steps for NIH, including using highthroughput technology to uncover the molecular underpinnings of disease and the translation of basic science discoveries into new treatments.

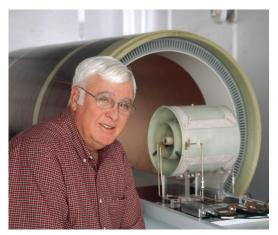
Among the other speakers were Dr. Linda Giudice, of the University of California, San Francisco, who talked about the importance of systems biology to translational research, and Dr. Gail Cassell of Eli Lilly and Co., who stressed cooperation among scientists in government, academia and industry.

More information, including the full program agenda, videocast and strategic plan can be found at http://orwh.od.nih.gov. 19



On hand for the 20th anniversary ORWH celebration were (from l) former NIH director Dr. Bernadine Healy, U.S. Sen Barbara Mikulski (D-MD) and ORWH director Dr. Vivian Pinn.

PHOTO: BILL BRANSON



Mitchell Honored by Radiation Research Society

NCI's Dr. James B. Mitchell was honored at the 56th annual meeting of the Radiation Research Society (RRS) with the Failla Award. The Failla Award/Lectureship has been bestowed by the society annually since 1963 for a distinguished career in radiation research. Mitchell's lecture titled "Chasing Free Radicals in Cells and Tissues," provided an overview of his research over the past three decades. He received the 17th RRS Young Investigator Award in 1989 and served as president of the society in 2001. Mitchell joined NCI in 1979 and has served as chief of the Radiation Biology Branch since 1993. His research focuses on modification of the radiation response, oxidative stress and functional tissue imaging using free radical probes.



Grantees Win Prince of Asturias Award

NIDA grantee Linda Watkins (1) and NINDS grantee David Julius (c) both received the 2010 Prince of Asturias Award for Technology and Scientific Research recently from the Prince of Asturias Foundation for their research into improved medications for pain relief. The awards are given to "encourage and promote the scientific, cultural and humanistic values that form part of mankind's universal heritage." They received the award from the prince of Asturias, who is heir to the throne of Spain, at an award ceremony that took place in Oviedo, the capital of Asturias, Spain. The involvement of the royal family, including the king and queen, brings out tens of thousands of onlookers to greet the winners, with a telecast seen all over Europe. The third cowinner, Baruch Minke (r), is not supported by NIH.



Knipe To Give Straus Lecture, Dec. 10 in Lipsett Amphitheater

Dr. David M. Knipe will deliver NIAID's third annual Stephen E. Straus Memorial Lecture on Infectious Diseases. Knipe's talk, "Continuing Challenges in the Development of a Herpes

Vaccine: One Step Forward and Two Steps Backward," will take place on Friday, Dec. 10, at 1 p.m. in Lipsett Amphitheater, Bldg. 10.

Knipe is based at Harvard Medical School, where he is the Higgins professor and vice-chair of the department of microbiology and molecular genetics and chair of the Harvard Program in Virology. His research focuses on herpes simplex virus 2 (HSV-2), which causes genital herpes and severe herpes infections in newborns and immunocompromised patients. Specifically, he studies the molecular and cellular biology of the virus, productive and latent infection and the mechanism of host immune response to HSV. Much of this work is geared toward developing an HSV-2 vaccine.

Knipe will discuss ongoing research in his laboratory as well as past and future attempts to develop an HSV-2 vaccine. He will also talk about the disappointing results from a recently concluded phase III international trial of an HSV-2 vaccine and implications for the future of HSV-2 vaccine research.

Knipe earned his Ph.D. in cell biology from the Massachusetts Institute of Technology in 1976.

The lecture series honors Dr. Stephen Straus, who served NIAID for 30 years as a lab chief and senior investigator, continuing in this latter role even after his appointment as the first director of NCCAM.

NCCAM further honors Straus by holding its second annual Stephen E. Straus Distinguished Lecture in the Science of Complementary and Alternative Medicine on Wednesday, Dec. 15. Harvard's Dr. Vikas Sukhatme will present "Promise for the Future in Yesterday's Remedies: Traditional Therapies to Modern Medicine" at 9 a.m. in Lipsett Amphitheater, Bldg. 10. All are invited to attend.



Above, lucky winners enjoying lunch in Bldg. 1 with NIH director Dr. Francis Collins (l) on Oct. 7 were (from l) Dominic Francese, NCI; Charlotte Bosmans, CC; Zorina Keiser, NIA; and Richard Okita, NIGMS. Below, just a small sampling of the more than 13,000 pounds of food collected can be seen.

NIH Exceeds 'Feds Feed Families' Goal

NIH participated with other federal agencies in the second annual Feds Feed Families campaign this summer. Government employees gathered a total of 1,693,082 pounds of donated food. NIH did its part by donating at 35 sites on and off campus and participated in 6 "Fill the Truck" events, collecting a total of 13,074 pounds



of food. NIH made a difference in the lives of many families and children in the metro region. $\,$

A special incentive for the final day of the food drive was a chance to join NIH director Dr. Francis Collins for lunch.

Staff who managed the charity project include Tonya Lee, Michelle Mejia and LaTonya Ricks of the Division of Amenities and Transportation Services, ORS; Mark Minnick and Woodrow "Spike" Harrison of the Fleet Management Branch; and Melvin Moton of Serco, Inc.



NLM Observes World AIDS Day, Dec. 1

NLM recognizes World AIDS Day 2010 with a lecture by Dr. Sharon Denise Allison-Ottey from 10 to 11:30 a.m., Wednesday, Dec. 1 in Lister Hill Auditorium, Bldg. 38A. An author, health educator and physician, Allison-Ottey lectures around the country on HIV/AIDS in women and in the African-American community. She received her medical degree from East Carolina University School of Medicine and earned dual degrees in biology and chemistry from North Carolina Central University. All are welcome to attend this public event.

HOOD

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"The real grand challenge for all of science and technology is complexity," Hood said. "How do we deal with it?'

PHOTOS: BILL BRANSON

a more committed believer in the power of technology to transform health care, NIH has yet to meet him or her.

Hood's 70-minute talk covered three topics: systems biology (on the 10th anniversary of ISB, a little crowing was in order—the institute now boasts 13 faculty, 300 staff, has spawned more than 70 similar groups worldwide and, by one study's measure, ranks first in the U.S. and third in the world in high-impact papers in the field), emerging technology (Hood seems to know where the smartest work is being done and was quick to credit cutting-edge biotech companies—one could imagine audience members quietly filing away investment options) and the new P4 medicine that will emerge within a decade as information technology blossoms in "cloud computing" that will put billions of useful data points, almost like a halo, around the heads of citizens.

"The real grand challenge," he said, adopting a phrase that both NIH and the Gates Foundation use to discuss Big Science projects, "for all of science and technology is complexity. How do we deal with it? It turns out that biology has really effective ways of dealing with complexity."

Discussing the fundamental principles of systems biology, Hood said biology itself "is an informational science" with two components: the genome, which is digital information, and the environment. Their combined output is what we know as phenotype.

He said systems biology seeks "a holistic, global view toward analyzing data," but acknowledged that with massive data sets fed by highthroughput technology, the signal-to-noise problem becomes enormous. But there's an app for that, he suggested.

What Hood is after is data so robust that it becomes "predictive and actionable; in other words, you can do something about it."

He said medicine must embrace a new cross-disciplinary culture in which engineering, mathematics, physics and computer science are as essential as biology and chemistry. "We've got to learn each other's languages," he said, and adopt teamwork as the new laboratory norm.

Hood said he has spent the entire first decade at ISB trying to develop a cross-disciplinary culture. "It is critical to create an infrastructure that allows any biologist to use any kind of high-throughput technology," he said.

To Hood, disease "arises as a consequence of a disease-perturbed network." His institute has spent the past 6-7 years studying neurodegeneration in mice, carefully working out, in 8 inbred strains, exactly what goes wrong, and when, and where, in animals infected with prions. ISB scientists have applied the powerful mathematics of "subtractive analyses" to weed out effects not due to neurodegeneration in the mice.

"Mapping the temporal progression of disease offers a variety of opportunities for drug intervention," Hood said. "No single drug will work; the approach must be multifaceted, depending on the stage."

He envisions blood diagnostics becoming "the key to P4 medicine," offering a window into health and disease. There are sophisticated new microfluidic-based protein-capture chips being developed that are capable of thousands of measurements. A patient 10 years from now might have a small amount of blood drawn twice a year and be presented with a fairly confident assessment of his/her health risks.

Hood outlined four large technology-driven projects that currently occupy ISB staff: whole-genome sequencing of families in order to identify disease genes (65 families affected by Huntington's disease are currently being studied); the Human Proteome Project; development of clinical assays for patients; and HGP II, the second Human Genome Project, which will amass the explosion of entire human genomes being churned out worldwide and mine it for disease-causers.

Hood believes that within 5-10 years, having one's genome decoded will be common. He thinks the systems approach will also be used to make vaccines.

"In the next 10 years, the focus will be on wellness, not disease," he said. "But it will take a new scale of IT." The P4 motto "Wellness quantified, disease demystified" has already attracted the state of Luxembourg in Europe, which has given ISB \$100 million over 5 years to develop a beta version of P4.

"I have infinite faith that a deep understanding of biology can deconvolute the complexity we are encountering," Hood said. "As a wise man once observed, you have to go through complexity to get to simplicity."

FAES Announces Spring Courses

The FAES Graduate School at NIH announces the schedule of courses for the spring 2011 semester. The majority of the evening classes sponsored by the Foundation for Advanced Education in the Sciences will be given on the NIH campus.

Courses are offered in biochemistry, biology, biotechnology (daytime courses), chemistry, immunology, languages, medicine, microbiology, pharmacology, statistics, technology transfer, alternative medicine, MCAT, GRE and courses of general interest. Certificates in technology transfer and public health program are also being offered with transfer of credits to a number of different master's degree programs at UMUC (tech transfer certificate program only).

It is possible to transfer credits earned to other institutions for degree work, with their approval.

Classes will begin the week of Jan. 24; mail registration ends Dec. 30. Walk-in registration will be held Jan. 10-19 and at an open house at the FAES Social and Academic Center on Jan. 5 from 4 to 7 p.m. Tuition is \$145 per credit hour and courses may be taken for credit or audit.

Courses that qualify for institute support as training should be cleared with supervisors and administrative officers as soon as possible. Both the vendor's copy of the training form (SF-182) and the FAES registration form must be submitted at the time of registration.

Note that FAES cannot access training forms entered in the NIHTS system; a signed hard copy (vendor's copy of SF-182) is needed in order to process registrations for classes. Asking your institute to pay your tuition is a preliminary step to registration but does not constitute registration with the FAES Graduate School.

Catalog supplements are available in the graduate school office in Bldg. 60, Suite 230; the Foundation Bookstore in Bldg. 10, Rm. B1L101; and the business office in Bldg. 10, Rm. B1C18. To have a catalog sent, call (301) 496-7976 or visit www.faes.org.

OER's Ellis Wins Carrabino Award

Joe Ellis, director of the Office of Policy for Extramural Research Administration within the Office of Extramural Research, has won the National Council of University Research Administrators' Joseph F. Carrabino Award. The honor recognizes a federal partner who has made a significant contribution to research administration.

"Joe is the perfect recipient of this award. He is the bridge between NIH and the research community," said Regina White, vice president of research administration at Brown University, who nominated him for the award. "He is as committed to the research agenda and faculty as any one of us."



White, who was Ellis's predecessor at OPERA, the NIH hub for policy and compliance issues related to extramural grants, noted that he had an extraordinary knowledge of the arcane technical details of federal policy and a remarkable ability to explain it to program staff at research institutions.

Ellis is the second NIH'er to receive the award; the first was Marcia Hahn, director of OPERA's grants policy division, who was honored last year.

"I try not to put myself into the spotlight because so much of what I do is a team effort," said Ellis, who has won nine NIH Director's awards and six OD Merit Awards since 2005. "Many people have made significant contributions and I get the credit."

This award, he acknowledges, is special because he was nominated by his peers outside of NIH. "To be selected from among the wonderful federal employees in the [extramural research] area means a lot to me," he said.

A certified public accountant by profession, Ellis joined NIH as an auditor in 1978 but eventually gravitated to the grants field, spending 12 years as chief of grants management at NIA and then NIGMS before joining OER.

"He oversees critical policy developments that impact grantees and is a liaison between the research administrators and NIH on administrative issues," said Dr. Sally Rockey, NIH deputy director for extramural research and OER director. "The research community has grown to trust him extraordinarily and view him as a true partner. Joe is really a great example of how government officials should be."

Ellis received the Carrabino award at a NCURA luncheon in Washington, D.C. on Nov. 1.—Manju Subramanya





Top, 1: Taking Jeopardy-style questions in a rematch from last year are (from l) NHLBI's Dr. Carl Roth, NCI's Jason Donaldson, NHGRI's Dr. Andy Baxevanis and NIH director Dr. Francis Collins.

Top. r:

Enthusiastic cheerleaders enjoy the battle of wits.

Below, r:

Which directors will be crowned Jeopardy champs? NIMH director Dr. Thomas Insel (1), NINDS director Dr. Story *Landis (c) and Collins vie for* the title.

Rottom:

Collins and IC directors gather for their annual CFC challenge event. Competitors were divided into four teams: Vermillion, Turquoise, Magenta and Periwinkle. Magenta eventually won the contest.

PHOTOS: JUDE GUSTAFSON, KATIE FINN, KYLE CHRISTIANSEN

CFC Directors Challenge Focuses on Fun, Competition

A rematch of last year's Combined Federal Campaign IC Directors Jeopardy Challenge was held Oct. 28 in front of Bldg. 1. An enthusiastic crowd responded to the smell of fresh popcorn and the hint of fall weather as they cheered on their directors. Adding to the eclectic tie-dye theme were beach balls, pom poms and a Jeopardy cake.

Guest speaker Mark Bergel, founder and executive director of the non-profit organization A Wider Circle, also got everyone into the giving spirit of the CFC with a few inspiring words. A Wider Circle's mission is to help children and adults lift themselves out of poverty by provid-





ing beds and other basic items to families moving out of shelters or living in neglected neighborhoods.

"The CFC replaces hopelessness with hope," said Bergel. "You are saving life after life." A Wider Circle was one of six charities at the event, continuing the NIH tradition to combine a fun activity with a spotlight on organizations benefiting from CFC donations.

Four teams combined to tackle contest categories. Teams included NIH director Dr. Francis Collins and NIMH director Dr. Thomas Insel, who is also serving as vice-chair of the 2010 NIH CFC. The challenge consisted of three rounds with questions about NIH history, basic anatomy and a special category titled "Dr. Ruth" about NIH's own Dr. Ruth Kirschstein.

Owing to the wide variety of "buzzer" skills, the line between audience and contestants disappeared as the audience shouted out answers in the final Jeopardy moments.

"The only thing better than the weather was the fun and competition among the directors and all to benefit so many great charities," concluded NIMH's Patrick Shirdon, 2010 CFC NIH campaign manager.—Setareh Kamali

R&W Halloween Party, Farmer's Market Round Out Successful CFC

Ten Combined Federal Campaign charities and warm chili kept NIH employees busy and cozy at the R&W Halloween Party hosted Oct. 29 on Bldg. 31's patio. Adding to the entertainment were the inventive—and just plain strange— Halloween costumes. Charities represented at the event included the Foundation for NIH, Boys & Girls Clubs of America, Angel Flight and National Capital Therapy Dogs, Inc. The latter group, a nonprofit, volunteer-based organization that provides animal-assisted activities and therapy services, has been involved with NIH for 20 years. Representing the organization at the Halloween party was volunteer John Bur-



Above, NIMH's Patrick Shirdon (1), 2010 CFC NIH campaign manager, greets three masked NIH'ers during the Halloween party held Oct. 29 on Bldg. 31A's patio.

At right, the Farmer's Market event at Rockledge II on Nov. 9 drew more than 500 attendees.

rows with his dog Sophie. "It's a really rewarding experience," he said of working with NIH.

The CFC event calendar continued Nov. 9 with the Farmer's Market at Rockledge II, where more than 500 employees turned out.

"It's a cool, crisp fall day," said Patrick Shirdon, 2010 CFC NIH campaign manager. "We have great vendors, over 20 charities and we are working hard to meet our goal."

This final CFC event was a true fall feast with funnel cake, hot chocolate, apple cider and lunch choices from Ledo's or Chick-fil-A. The Leukemia & Lymphoma Society, the AIDS Research Foundation and Aid for Africa organization were among several CFC charities in attendance. Vendors Yoder's Green House, All Things Olive, Upper Crust Bakery and Two Acre Farm sold everything from plants to fresh produce and baked goods.

NIH could not have asked for a better way to end CFC events for 2010. However, there is still time to give. Look for your IC's CFC special events.—Setareh Kamali

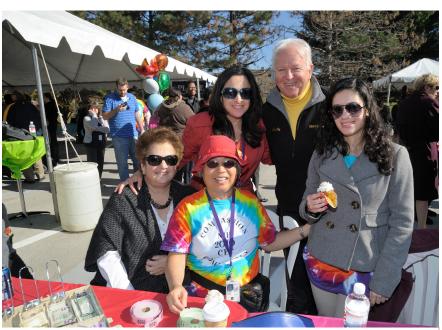


At the Halloween event, NIH CFC committee members Kallie "Elmo" Wasserman (l) of the R&W and Stillman mug for the camera.





Rocking the tie-dyed T-shirts at the Farmer's Market for CFC are (from l) Katie Finn, Shirdon, Laura Stillman, Kichelle Green and Antoinette Boswell, all of NIMH, which serves as lead IC for the campaign this year. Below, NIH CFC committee volunteers include (seated, from l) Marsha Love and Louise Marshall, and (standing from l) Monica Hanson, Randy Schools and Setareh Kamali.



milestones



Former senior investigator in NIAID's Laboratory of Immunology Dr. Ira Green died on Oct. 22 at age 84.

Former NIAID Immunologist Green Mourned

Dr. Ira Green, an immunologist and former senior investigator in NIAID's Laboratory of Immunology, died on Oct. 22 after a long bout with Alzheimer's disease. He was 84.

Green was responsible for many major advances in immunology. His most notable accomplishments were in the understanding of how immune response (Ir) genes mediated their function, work that contributed importantly to the Nobel Prize that his research mentor, Baruj Benacerraf, received. Green was among the first to use newly developed methods to determine the cellular origins of leukemias and lymphomas and was a leader in the analysis of the biologic properties of Langerhans cells, particularly in the determination of their antigenpresentation capacities.

Born in New York City, he served in the Navy during World War II. He received a B.A. from New York University in 1949 and an M.D. from the State University of New York Downstate Medical Center in 1953. After house staff training at Montefiore Hospital and the New York Veterans Administration Hospital, Green briefly practiced internal medicine and then was a member of the hematology research group at Montefiore Hospital from 1960 to 1964.

In 1964, he changed his career path and joined the Benacerraf laboratory at NYU School of Medicine as a special fellow of the PHS.

Green was responsible for the NYU lab's research program on Ir genes. Among his notable contributions was the demonstration that in transfer models, monogenic control of responsiveness to simple antigens was a property of the recipient, a finding that paved the way to the understanding that Ir gene products mediated their function on antigen-presenting cells, a subject to which he and his postdoctoral fellow Ethan Shevach would make notable contributions after Green came to NIH in 1968. In the NYU era. Green also showed that individual antibody-producing cells secreted antibodies of only a single specificity, a notable confirmation of the clonal selection theory.

After returning briefly to Montefiore, Green joined Benacerraf and Dr. William Paul, who had also been at NYU, in 1968 in moving to the Laboratory of Immunology. He became a senior investigator in LI, a position he held until 1986. At NIH, he made major contributions to determining the locus of action of Ir gene products, to the recognition that these were class II MHC molecules and to the demonstration that they played a key role in the activation of antigenspecific T cells. Much of this work was carried out with Shevach.

Green then turned to his original research theme, hematology, and used the developing tools of immunology to identify the cellular origin of various leukemias and lymphomas working with a group of colleagues including Elaine Jaffe, Rick Edelson, Michael Frank and Shevach.

"One of Ira's most endearing and important traits was his ability to spot the ways in which individuals with different skills and knowledge could be brought together into a highly productive collaborative group," remembers Paul. "He was always the spark plug of such interactions and made it possible for a wide range of important discoveries to be made."

Another notable area was his work on understanding the immunologic function of epidermal Langerhans cells, where he collaborated closely with Steve Katz, George Stingl, Shevach and others.

Green trained a series of research fellows who became highly successful independent scientists, including Laurie Glimcher and Shevach. His work was recognized by election to the American Society for Clinical Investigation, by the receipt of a PHS Superior Service Award and of the Philip Hench Award from the Association of Military Surgeons of the United States. He was listed by Current Contents as among the 300 most highly cited scientists for the period 1965-1978.

Green left LI in 1986 to join the NCI Biologic Response Modifiers Program in Frederick and in 1990 moved to the Agency for Health Care Policy Research. He retired from government service in 1994.

Said Paul, "Ira was one of the handful of individuals responsible for the growth of the intramural NIH immunology community from its very modest beginnings into its current status as one of the world's leading centers of research."

He is survived by his wife, Terry Green, two children, Robert Green of Bethesda and Emily Schneider of Knoxville, Tenn., and two grandchildren, Reed and Lily Schneider.

NCI's Karen Johnson Dies

Dr. Karen Audrey Johnson, longtime chief of the breast and gynecologic cancer research group in NCI's Division of Cancer Prevention, died on Aug. 19 after combating ovarian cancer for more than 12 years.



"Karen was passionate about prevention," said Dr. Leslie G. Ford, associate director for clinical research in DCP. "She firmly believed that prevention was the preferred route to addressing the burden of cancer."

Johnson graduated from Washington College in Chestertown, Md., in 1968 with a bachelor's degree in chemistry. She went on to complete a doctorate in inorganic chemistry from the University of Delaware in 1972, subsequently working as a research chemist for DuPont Corp. After the death of her father from cancer, she entered Jefferson Medical College in Philadelphia, where she received her medical degree.

In 1984, she began a medical oncology fellowship at Georgetown University. Johnson joined NCI in 1986 as one of the first prevention fellows and upon completion, she returned to Georgetown as an attending physician in the department of medical oncology. In 1991, she rejoined NCI as a breast cancer expert. She earned a master's in public health from Johns Hopkins University in 1995.

A 2-year hiatus from NIH was completed with service as a medical reviewer at the Food and Drug Administration from 1996-1998. Johnson then returned to NCI and was appointed chief of the breast and gynecologic cancer research group, remaining there until her death.

"Karen was instrumental in helping us develop our clinical cancer prevention program," said Dr. Powel Brown, chair of the department of clinical cancer prevention at M.D. Anderson Cancer Center. "Working with her was probably the most productive collaboration I've had in science. Karen was always helpful and supportive and would come up with constructive suggestions to move us forward."

Among Johnson's many awards was the Washington College Alumni Citation for Medicine in 1998 and the Washington College Service Award in 2008. She also co-authored several

books on the management of cancer in addition to numerous articles on preventing cancer through the use of chemoprevention.

NCI's Vogel Succumbs to Kidney Cancer

Dr. Jonathan Carl Vogel, an intramural physician-scientist in the Dermatology Branch, National Cancer Institute, died of kidney cancer on Oct. 30 at age 56.

He was a mentor to a generation of researchers and, as news of his death spread, sympathy poured in from around the world for his survivors—his wife Betsy and his children Nora, Hannah and Max.

From Japan, Germany, Austria and from labs across the country, colleagues recalled a thoughtful friend marked by his collegiality, integrity, humor and humility. They spoke of him as an able collaborator who relished exploration and the critique and defense of complex ideas. They recalled how Vogel had managed to balance his professional and private life. His family enriched his life immeasurably, so he in turn tried to enrich the lives of patients through his research.

Vogel was born and reared in Carlyle, Ill., earning his M.D. from Rush Medical College in Chicago in 1981. He completed his internal medicine residency at Barnes Hospital, Washington University Medical Center, St. Louis, followed by a fellowship at NCI, where he worked in Dr. George Khoury's lab.

After accepting a 3-year faculty position at the Holland Laboratories of the American Red Cross in Rockville, Vogel returned to NCI, joining the Dermatology Branch. There he focused on skin gene therapy and keratinocyte stem cells. His dream was to genetically modify keratinocytes so they could work as delivery vehicles for important metabolic molecules such as insulin and growth factors.

Throughout his career in medicine, Vogel excelled in research and strove to develop strategies and treatments that would improve quality of life and length of survival for his patients. Despite the best efforts of many at NCI and in other research centers, his own survival was cut short by cancer. •



Dr. Jonathan Carl Vogel of NCI's Dermatology Branch died Oct. 30 at age 56.

digest

Lung Cancer Trial Results Show Mortality Benefit with Low-Dose CT

The National Cancer Institute has released initial results from a large-scale test of screening methods to reduce deaths from lung cancer by detecting cancers at relatively early stages.



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The National Lung Screening Trial (NLST), a randomized national trial involving more than 53,000 current and former heavy smokers ages 55 to 74, compared the effects of two screening procedures for lung cancer—low-dose helical computed tomography (CT) and standard chest X-ray—on lung cancer mortality and found 20 percent fewer lung cancer deaths among trial participants screened with low-dose helical CT. The NLST

was sponsored by NCI. A paper describing the design and protocol of the NLST was published Nov. 3 by the journal *Radiology*.

"This large and well-designed study used rigorous scientific methods to test ways to prevent death from lung cancer by screening patients at especially high risk," said NCI director Dr. Harold Varmus. "Lung cancer is the leading cause of cancer mortality in the United States and throughout the world, so a validated approach that can reduce lung cancer mortality by even 20 percent has the potential to spare very significant numbers of people from the ravages of this disease. But these findings should in no way distract us from continued efforts to curtail the use of tobacco, which will remain the major causative factor for lung cancer and several other diseases."

NIH Researchers Identify Genetic Elements Influencing Risk of Type 2 Diabetes

A team led by researchers at the National Human Genome Research Institute has captured the most comprehensive snapshot to date of DNA regions that regulate genes in human pancreatic islet cells, a subset of which produces insulin.

The study highlights the importance of genome regulatory sequences in human health and dis-

ease, particularly type 2 diabetes, which affects more than 20 million people in the United States and 200 million people worldwide. The findings appeared Nov. 3 in *Cell Metabolism*.

"This study gives us an encyclopedia of regulatory elements in islet cells of the human pancreas that may be important for normal function and whose potential dysfunction can contribute to disease," said senior author and NIH director Dr. Francis Collins. "These elements represent an important component of the uncharted genetic underpinnings of type 2 diabetes that is outside of protein-coding genes."

NIH-Supported Mouse Studies Suggest Treatment Target for Alcohol Problems

A molecular pathway within the brain's reward circuitry appears to contribute to alcohol abuse, according to laboratory mouse research supported by the National Institute on Alcohol Abuse and Alcoholism. The findings were published online Nov. 1 in *Proceedings of the National Academy of Sciences*.

The mammalian target of rapamycin complex 1, or mTORC1, is a group of proteins found in cells throughout the body. An important part of the cellular machinery, mTORC1 sends signals that help regulate the size and number of cells. Scientists have also found that it is involved in other cellular processes.

For example, in the central nervous system, mTORC1 has been linked to processes related to learning and memory. Because problems in the cellular mechanisms that underlie learning and memory can contribute to alcohol abuse disorders, NIAAA-supported researchers at the University of California, San Francisco, hypothesized that mTORC1 might be involved in alcohol problems.

In studies conducted with mice, researchers led by Dr. Dorit Ron, a UCSF principal investigator, measured an increase in mTORC1 cellular products in the nucleus accumbens of mice that had consumed alcohol—an indication that alcohol activates the mTORC1 pathway.

"Our findings show that the mTORC1 pathway is an important contributor to mechanisms that underlie alcohol-seeking behavior," says Ron. "They also suggest that novel rapamycinlike compounds might be useful treatments for alcohol use disorders."

volunteers

The phone numbers for more information about the studies below are 1-866-444-2214 (TTY 1-866-411-1010) unless otherwise noted.

Loa Loa Study

Have you ever traveled to or lived in central or western Africa for longer than 1 month? Have you or someone you know experienced worms moving along the white part of the eye? Are you between 18 and 65 years old? NIAID is seeking volunteers to participate in a research study evaluating the effectiveness of reslizumab in reducing the side effects of the standard drug therapy used to treat Loa loa. All participants will be required to travel to NIH for an overnight stay. All study-related tests or treatment are provided at no cost. Refer to study 10-1-0101. Se habla español.

Epilepsy Study

Do you suffer with seizures? Consider participating in a study evaluating and treating people with epilepsy. Individuals will undergo standard diagnostic procedures used to determine the type of seizures, causes and whether standard drug treatment can help them. All study-related tests are provided at no cost. Refer to study o1-N-o139.

Januvia Study

Volunteers are needed for a study examining immune function in healthy volunteers given short-term treatment of sitagliptin. Investigators wish to determine if and how sitagliptin alters immune function. If you are 18 years or older and healthy, consider participating in this study. All study-related tests are offered at no cost. Compensation is provided. Refer to study 09-DK-0055.

Seeking Patients with Wet Age-Related Macular Degeneration

The Food and Drug Administration has approved the use of Lucentis for treatment of wet age-related macular degeneration. The National Eye Institute is looking for volunteers 50 years and older with wet age-related macular degeneration to participate in a study exploring the different responses to the drug Lucentis. Participants will be required to travel to NIH on an outpatient basis for the initial evaluation and subsequent monthly examinations. Refer to study 08-EI-0103. Se habla español.

Hepatitis B Study

Did you receive the hepatitis B vaccine or did you recover from acute hepatitis B more than 10 years ago? Would you like to know if you still have protective antibody levels? Consider participating in the Hepatitis B Vaccine Immunity Study. This study consists of one outpatient clinic visit for a blood draw and a short research questionnaire. Participants must have been 18 years of age or older and younger than age 60 when the hepatitis B vaccine was administered. The vaccine must have been given prior to the year 2000. Individuals who have a history of chronic HBV infection or those who did not receive all 3 doses of HBV vaccine are not eligible for participation. For more information, call (301) 435-6121. Refer to study 10-DK-0187. Compensation is provided.

Liver Diseases Study

Individuals with liver disease are needed for NIH study. NIDDK is conducting studies on liver diseases including hepatitis B, C and D, primary biliary cirrhosis, nonalcoholic steatohepatitis (NASH), fatty liver disease, autoimmune hepatitis, portal hypertension not due to cirrhosis, acute hepatitis from any cause and rare or unexplained liver disorders. Studies are conducted at the Clinical Center. There is no cost for study-related medications, tests or treatments. Must be 18 years of age or older. Refer to study 91-DK-0214.

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This image from winter 2009-2010 reminds us to get ready for the coming cold weather.

Tips on Surviving the Winter Ahead

The Office of Research Facilities reminds all NIH employees, contractors, patients and visitors to think ahead and prepare for the adjustments in behavior that snow and icy weather require. The winter of 2009-2010 should be reminder enough to get ready for the coming cold weather. The National Weather Service predicts this winter to bring above-normal temperatures and above-average precipitation, meaning the likelihood of more ice storms. Remember to wear multiple layers of clothing under a warm jacket, gloves, a scarf and a hat that covers your ears. Most importantly, have comfortable soft rubber-soled shoes or boots that will handle slick and slushy surfaces. Avoid footwear with hard leather soles.

Other precautions include making sure your vehicle is prepared for winter conditions. Make sure your battery is relatively new and fully charged. Check your tires for a good amount of remaining tread life and inspect your windshield wiper blades. These should be replaced yearly. Make sure your wiper fluid level is topped off with fluid that will not freeze. Always have available a sturdy ice scraper, preferably with a broom attachment, to clear ice and snow from all windows, hood and roof. In addition, it's a good idea to carry in your trunk a blanket, extra gloves, jumper cables and a bag of kitty litter for traction under spinning tires.

Finally, give yourself extra time to get where you want to go, whether driving to work or walking across campus. Keep well behind trucks spreading salt or sand to protect your vehicle. Spreader trucks often back up and if you are too close the driver may not see you. When walking across campus, stay on plowed and treated sidewalks.

Try to avoid walking on roadsides and through parking lots, especially between parked cars where ice patches may remain. When you're about to cross a street, make eye contact with any approaching drivers to ensure that they see you. Taking the campus shuttle bus is always a good idea in bad weather. Remember, thinking ahead and being prepared will give you the best chance of having a safe and enjoyable winter season.—Lynn Mueller



Sara Anderson (r) of NCI meets one of the cheerers on the course as she runs the Army 10-Miler.

NIH'ers Organize PHS Presence at Army 10-Miler

By Jan Ehrman

Competing in a 10-mile race is challenging enough. But an even more difficult undertaking may be convincing others to join you.

That was precisely the task that two NIH veterinarians accomplished when they recruited a cadre of Public Health Service runners, including a number of NIH'ers, for the popular Army 10-Miler held Oct. 24 in Washington, D.C.

Both marathon runners themselves, Dr. Evan Shukan of NINDS and Dr. Shelley Hoogstraten-Miller of NHGRI organized 9 PHS teams totaling some 50 runners for the race. About 30,000 runners in all took part in the $26^{\rm th}$ annual event. About two-thirds of participants are either government employees or in the military.

"When Shelley and I participated in last year's event, along with only two others from PHS, we said we would work for a bigger turnout," said Shukan. "But after we started contacting people, it blossomed into this year's huge group of 50 runners and 50 volunteers. We just never imagined when we started everything it would end up so big."

Many good stories came out of the event, he added. While most participants were regular runners, some were former runners who had to re-train to be ready for the challenge. Others were relative newcomers to the activity. One FDA employee who ran is a former world champion weight and power lifter, holding 18 world titles.

"It was apparent that she had little experience running, yet clearly she was a great athlete," said Shukan, a runner for some 20 years. "It was great to see just how hard she trained for a sport she was not accustomed to."

One achievement was that Shukan and Hoogstraten-Miller put a positive face on PHS, helping to "put the health" in Public Health Service. The latter participated in the event alongside Deputy Surgeon General Boris Lushniak. "In fact," Hoogstraten-Miller said, "we were busy passing the PHS flag [which was attached to a pole] between us for the duration of the race." The public relations effort left her with a sore collarbone, she admitted.

The race begins near the Pentagon, passes by the Lincoln Memorial, the U.S. Capitol and loops around northwest D.C. to conclude back near the Pentagon.

The event also raised funds, and a large quantity of lightly used running shoes, for the organization Soles4Souls. Contributions help recipients in 145 countries.

The two NIH organizers said the occasion was "a great opportunity to show other government and military people what we [PHS/NIH] are really all about."



Above, Dr. Shelley Hoogstraten-Miller (l) of NHGRI and Dr. Evan Shukan (third from l) of NINDS help bear the PHS flag. Below, team members assemble for a photo at the Pentagon before the race.

